

## 論文

# Learning On-line: A First Experience

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## **1 . Introduction**

An on-line classroom, by way of a connection to the Internet, is a way for teachers and students who are countries apart to come together and share a learning experience. Getting a formal education need no longer be confined to a traditional classroom setting.

Universities in the United States have recently been offering classes on-line for credit that count toward a degree. Courses are also being offered for professional development and continuing education. The on-line classroom has become a viable option for those who desire continued access to knowledge and a higher education.

I had an opportunity to explore this method of instruction by taking a course presented by TESOL (Teachers of English to Speakers of Other Languages, Inc.), a professional organization for second and foreign language teachers of English. I was interested in finding out what an on-line class had to offer for education in general and the teaching of EFL (English as a foreign language) in particular. The observations presented in this article are based on my experiences in the course.

## **2 . Research Question**

What are factors to consider when designing and conducting an on-line class?

## **3 . Review of Literature**

### A definition of on-line education

What is on-line education? It could be considered to be a form of

distance education. As in distance education, students and teachers are usually in separate locations. The traditional classroom building, equipped with blackboards, desks, and chairs, is not used by students and teachers on a regular basis, if at all. While traditional distance education courses use the textbook, paper, and pencil that are also found in traditional classrooms, on-line courses use the Internet and computers for instruction.

A report by the Florida State Board of Community Colleges (2000) explains that on-line education is a form of distance education, education that started as "... correspondence or home study courses delivered by mail", to its present form in which "... the emerging delivery methods are interactive videoconferencing (teleclasses) and courses delivered primarily via the electronic capabilities of the Internet or World Wide Web" (p.1).

#### Universities and on-line education

Warschauer, Shetzer, and Meloni (2000) write that "... the fastest growing segment of the distance education market is based on on-line learning" (p.76). They go on to write that "... the power of computers and the Internet can allow distance education programs to be more flexible, interactive, and fast-paced, but whether this will prove to be true in practice remains to be seen" (p.76).

Many universities and colleges are offering or will be offering distance education courses for credit. According to a Department of Education (U.S. Department of Education, National Center for Education Statistics [NCES], 1999) report, 62% of public 2-year, 5% of private 2-year, 78% of public 4-year, and 19% of private 4-year institutions offered distance education programs in 1997-98, and 20% of public 2-year, 20%

of private 2-year, 12% of public 4-year, and 22% of private 4-year institutions planned to offer programs in the next three years after the study. (page 12)

The same U.S. Department of Education report (NCES, 1999) found that 16% of public 2-year, 22% of public 4-year, and 19% of private 4-year institutions offered distance education courses through synchronous computer-based instruction, while 57% of public 2-year, 58% of public 4-year, and 61% of private 4-year institutions offered these courses through asynchronous computer-based instruction (p.38) and that 82% of the institutions "... planned to start using or increase their use of asynchronous Internet instruction as a primary mode of delivery..." (p.39).

Universities and colleges are turning to on-line education as a means of economic survival. Palloff and Pratt (2000) write the following:

Colleges and universities today are in transition. Factors contributing to that transition are economic pressures from mounting costs, demands by the business world for graduates who are able to function in a knowledge society, and greater diversity among students who choose to go on for higher education. (p. 3)

Universities and colleges see on-line distance learning as both an opportunity to fill an educational need and as a business opportunity. For these institutions it is a way to accommodate students who desire to study in or complete a formal education program but are not in a situation where they can attend classes in a traditional setting. A report by the Florida State Board of Community Colleges (2000) reports that "... 47% of the online students and 32% of the teleclass students in the

study stated that they would not have been able to take the course they were in if it had not been available via distance learning” (p. 17).

#### Student and teacher attitude toward on-line education

A Florida State Board of Community Colleges (2000) report reveals that the majority of students who took part in a survey had a positive attitude toward their on-line class. With regard to courses that they were taking, “eighty-four percent indicated that they were satisfied or very satisfied ....” and “... eight-six percent of the students said that they would recommend this online course to other students and 90% stated that they would take another online course” (p.10).

The Florida State Board of Community Colleges (2000) report also reveals the attitudes of one hundred fifty-three teachers of on-line or teleclass courses in their education system. Fifty-six percent felt that distance learning was an equivalent experience to the conventional classroom, while thirty-five percent felt it was worse or ineffective (p.4). Some of the lack of enthusiasm for the classes “...may be represented in the 68% who stated that course development and class preparation is greater for distance learning courses” (p.18). In spite of this, “...58% of the faculty who responded to the survey indicated that their overall teaching experience in distance learning had been positive or very positive...”, 71% would recommend involvement to other teachers, and “... 84% said they would be willing to teach another distance learning course” (p.9).

#### Design and use of an on-line class

In a traditional classroom setting, teachers must consider many factors when deciding on how to present the content of a class.

Included in these factors would be the type of material to present, limitations of the physical facility, consideration for the equipment available, the teaching style/philosophy of the teacher, student needs and ability levels, as well as any others that would enable the learning process to proceed. The same factors would be evaluated in the design of an on-line class as well, along with factors that are unique to this environment.

To design an effective on-line class, not only do teachers need technical training but also knowledge of how best to use the resources available on the Internet. Marsh, Price, and McFadden (2000) write that the "...major problem confronting IHE's [institutions of higher education] are twofold: (1) the lack of technical skill among faculty members to convert their courses into online formats, and (2) the need to support and manage distance education" (page 165).

Teachers are not always trained before putting their courses on-line. A Florida State Board of Community Colleges (2000) report found that "while faculty reported an average (mean) of 17 hours of training in the use of application of distance learning technology and an average (mean) of seven hours of training in development of curricula for distance learning courses, the most answered response (mode) was zero hours of training in both cases" (p.5).

Designing an on-line class takes careful planning and preparation. It is not simply a matter of taking materials used in the conventional class and loading them into a course delivery system on-line. According to Palloff and Pratt (2000):

Many institutions mistakenly believe that all it takes to implement an online distance learning program is to install a fancy software

package and train faculty to use it. Certainly, an instructor needs to be knowledgeable about the technology in use and comfortable enough with it to assist a student should difficulty be encountered. (p.4)

Along with this technical expertise, teachers need to be open to taking advantage of potential new ways of learning that are available on-line. About on-line course design, Palloff and Pratt (2000) write:

In order to successfully navigate the power of this medium in education, faculty must be trained not only to use the technology, but also to shift the ways in which they organize and deliver material. This shift can maximize the potential for learners to take charge of their own learning process and can facilitate the development of a sense of community among the learners. (p.3)

Aside from the consideration for factors such as course objectives, content, policies and procedures, evaluation of course and instructor, that go with designing any course, Canning-Wilson (2000) writes that "...the on-line teacher when designing a course must also consider how he/she will deal with the emotional, psychological, and learning style of the perspective on-line student" (p.8).

There are other factors to consider when designing an on-line course. Hsu, Marques, Hamza, and Alhalabi (1999), in their report on the steps to take when designing an on-line class, include the need to "...estimate the development cost, effort, and implications..." (p.2-11). Roberts and Jones (2000) write that this is an important consideration because "... as universities worldwide face up to increasing competition,

the development of models which facilitate quality online education while keeping costs to a minimum is likely to be vital to the survival of those institutions” (p.11).

An on-line class can take on many forms. Roberts and Jones (2000) describe four models of on-line classes being used at a university in Australia and write that one model is not necessarily better than another model, but is dependent on a variety of factors, including “...type of subject matter..., the competencies and personal preferences of the teacher(s)..., ...the prior experiences of the students..., ...the expectations of the students..., ...the maturity and self-study skills of the students” (p.3).

The research in on-line learning suggests that it need not be used exclusively as a distance learning tool. It can also be used either as the main component or as a supplement to a traditional classroom-based course. Using the wealth of resources available on the Internet, on-line learning can be a very valuable source of information for these students. Simpson (2002) writes:

A range of CMC [computer mediated communication] modes can be used in combination. In teaching and learning contexts where the primary mode of delivery is face-to-face classroom interaction, CMC can provide valuable alternative spaces for collaboration, and opportunities for learner autonomy. In addition, where course provision is in distance mode, asynchronous and synchronous CMC, together with the possibilities of interactive media on the www, can offer access to a wide range of learning opportunities. (p.415)

The Internet is a tool to be used for quality educational instruction.



It is a means to an end, and its effectiveness depends on how teachers design courses to bring its strengths to the on-line class. Jones (2001) lists five things to do to utilize the advantages of computer assisted language learning [CALL], one of which is to “recognize that students can only learn from computers with the instruction and supervision of teachers: CALL will not be effective without this essential interaction of teachers and students” (p.366). As Mark Warschauer, Heidi Shetzer, Christine Meloni (2000) write:

Just as students won't learn simply by being brought to a classroom, neither will they learn by being sat down in front of a networked computer. In the end, it is not the technology itself but the teaching that makes the difference. (p.8)

#### Student and teacher approach to an on-line class

On-line education should not be considered a second class form of education. A Florida State Board of Community Colleges (2000) writes that there is a “...need to have both faculty and students understand that distance learning courses maintain the rigor and quality of the traditional classes” (page 14), while reporting that in their survey “...62% of the respondents answered that the workload in the online course had been demanding, half of the student respondents found the online course to be equivalent to the traditional classroom and 36% said it was better...” (p. 10).

Orientation of the students to the idea that when working on-line they are joining a community of learners will make for a more successful and fulfilling learning experience. Palloff and Pratt (2000) write:

The transition to the cyberspace classroom can be successfully achieved if attention is paid to several key areas. They are: Ensuring access to and familiarity with the technology in use; establishing guidelines and procedures which are relatively loose and free-flowing, and generated with significant input from participants; striving to achieve maximum participation and “buy-in” from the participants; promoting collaborative learning; and creating a double or triple loop in the learning process to enable participants to reflect on their learning process. (p.4)

To create this community of learners, the literature suggests that teachers may need to review and revise their roles when they teach on-line. Palloff and Pratt (2000) write that when teaching on-line:

It means engaging in self-reflection as instructors to determine our own comfort level in turning over control of the learning process to our students. It means promoting a sense of community among our students to enhance their learning process. But, most of all, it means abdicating our tried and true techniques that may have served us well in the face-to-face classroom in favor of experimentation with new techniques and assumptions. (p.7)

#### What happens in an on-line class?

##### Interaction among participants in an on-line class

The literature suggests that some changes occur in the discussion patterns of participants in an on-line class. According to Simpson (2002), “levels of learner participation and of turn-taking initiation are greater in the computer mode” and “it is more difficult for any one individual

(including the teacher) to dominate a computer-assisted discussion” (p.415).

The literature suggests that on-line learning does not necessarily mean learning in isolation. Skinner and Austin (1999), reporting on the quantity and quality of communication among participants in an English-as-a-foreign-language [EFL] on-line class, write that “...all the students are involved in meaningful communication in English for the whole session” (p.270). About a class that used computer conferencing as a means of communication for writing assignments, Leppanen and Kalaja (1995) write that “...it turned out that the number of comments the students received on their writings increased, and more importantly, the comments differed in quality from those made by the tutor who preferred the traditional red pen to CC” (p.35). Lapadat (2000) writes of the “...collegial, supportive atmosphere...” (p.10) that developed in an on-line class along with a “...sense of community...” (p.12).

#### Characteristics of the on-line discourse

The literature suggests that students are able to stay on the topic during on-line interaction. According to Lapadat (2000), in contrast to face-to-face discussions, “...most of the contributions to the online conference were relevant to course topics and the emergent discursive themes at multiple levels, with few digressions” (p.14).

#### Qualities of the language of the on-line class

Some of the research into on-line education has focused on the qualities of the language that is used among the participants in the classroom. It would appear that language quality can range from the informal (being more like oral communication), to the very formal

(being more like the written form of communication). Lapadat (2000) writes about communication in one on-line class that “...contributions show a blend of both written language and oral language characteristics, which I believe may have been particularly facilitative of the cognitive level of the discourse” (p.15).

#### Critical thinking in the on-line class

Research related to the critical thinking skills and on-line instruction has also been conducted. It would appear that on-line instruction is in some ways a more intense and focused form of educational experience than a traditional class. Lapadat (2000) writes of writing on-line:

The formal nature of written communication leads to a greater emphasis on finding precise terminology and phrasing to convey an idea. The permanence of print and the extended time frame allowed by the asynchronous medium permits students to look back, reflect, compose, and revise. By devoting extra time to thinking, reading, and writing, and by holding higher expectations for the clarity and coherence of their contributions, students engage in more higher order thinking, and thus potentially can achieve deeper understandings. (p.20)

#### The future of on-line education

On-line education appears to be a growing and developing field and could be an important alternative form of education in the future. Canning-Wilson (2000) writes that “...the on-line language teacher will replace the EFL/ESL classroom teacher” (p.2). Although there will be those who disagree with this position, the comment does show the depth of

feeling of some for the future of on-line education.

## **4. The Study**

### Description of the informant

The informant for this report (the author/researcher) has been teaching EFL (English as a foreign language) in Japan for fifteen years. He has taught privately, for businesses, and in institutional settings such as schools and local government sponsored. Students have ranged in age from kindergarten through retirees. He is currently teaching at a university in Japan.

### Description of the setting and work assignments

The course that the informant was enrolled in was titled “How To Teach Online”. It was an on-line workshop presented by TESOL (Teachers of English to Speakers of Other Languages, Inc.), a professional organization for language teachers. The term was four weeks in length.

The course was ungraded and non-credit, presented for continuing education and professional development. If students completed the assignments required for the course, they would be awarded a certificate of participation, and be allowed to take part in a second, advanced course.

The class was for students who had little or no experience with teaching or learning on-line. The students were not expected to be computer experts, but needed some basic knowledge, such as how to access the Internet, use e-mail, and familiarity with a word processing program.

There were twelve students enrolled in the class. They were located in the United States, China, and Japan. It is not known if all of the students were native speakers of English or what their specific teaching specialties were.

The class was conducted entirely on-line, using a course management system called Blackboard. By using Blackboard, on-line teachers can present their own teaching materials in a class offered via the Internet.

Classwork was conducted asynchronously, a setting in which students are not required to be on-line at the same time. Students could do the coursework on their own schedules, but there were assignment deadlines to meet.

There were several types of class assignments. They were as follows:

- (a) Students were asked to read chapters from a textbook that was required for the course. After reading, students were asked to post their reactions on the on-line classroom discussion board.
- (b) Short articles were posted in the on-line classroom for students to read. As with the textbook readings, students were asked to post their reactions to the articles on the on-line classroom discussion board.
- (c) Students were asked to review an operational on-line class. After viewing the elements of the class, they were asked to post their reactions on the on-line discussion board. In addition, the instructor for the on-line course that was reviewed was available to take questions about teaching on-line from the workshop students.

- (d) Students were asked to prepare an on-line lesson plan. These plans were to be reviewed by other members of the class. Questions and comments were to be sent both to the creator of the lesson plan and to the on-line discussion board.

#### Description of equipment

The informant used two computers to access the on-line course. One computer had a Windows operating system and the other a Macintosh operating system.

MS Word, Appleworks, and Netscape Composer were the software programs used to prepare assignments. MS Word (Japanese version) and MS Word (English version), Netscape Composer (Japanese version and English version), and Appleworks (Japanese version) were used.

The computers were connected to the Internet via an ISDN line and an Internet Service Provider (ISP) in Japan. ISDN service was provided for a flat rate monthly fee with no time limit. ISP service was provided with a monthly fee for 15 hours of service, with a per minute charge to be assessed after the 15 hour maximum was reached.

#### Data collection

The data collected are observations of the informant that are related to the coursework. They are recollections and are qualitative in nature, and therefore subject to a variety of interpretations. It should be noted that the informant teaches EFL, so the comments made may have been affected by previous experiences and education. Data was also collected from the on-line discussion, focusing on the amount of student participation. In addition, data regarding the number of sample lessons submitted are also presented.

## 5. Observations

### About technical requirements and special skills

The following are comments made by the informant about the computer-related elements of the on-line course.

1. The computer hardware was adequate for the needs of the course.
2. There were no technical problems with the connection to the Internet using the ISP and ISDN providers.
3. There were no problems using e-mail or locating the on-line classroom site.
4. Because of previous experience, using MS Word for word processing did not present any problems. Appleworks and Netscape Composer were not as familiar to the informant but were not difficult to use as word processing programs.
5. There was some concern about remaining below the time limit restrictions of the service agreement with the Internet service provider in order not to incur additional telephone charges.
6. There was a problem transmitting assignments to the course instructor electronically. The messages would sometimes become garbled and appear as computer code or indecipherable characters.

### About the course assignments

As one assignment, students were required to respond to topics selected by the instructor by posting messages on the discussion board in the on-line classroom. Each of the twelve students was required to respond at least three times to each topic. The following is a list of the topics that were posted on the discussion board, in order of appearance



during the four week period of the course.

- (1) Getting to know you  
Self-introductions
- (2) The Advantages (or not) of the Discussion Board  
Students were asked to give their opinions about discussions using the on-line class discussion board.
- (3) Responding to the guest speaker's course site  
Students were asked to view an operational on-line site and comment on it.
- (4) Asking the guest speaker questions about her course site  
A week after viewing the site in (3) above, students were given an opportunity to ask questions to the developer and instructor.
- (5) Read an article provided by the teacher  
Students were asked to read and comment on an article about teaching and curriculum development.
- (6) Final Week Response-Sample lessons  
Students were asked to review and comment on sample on-line lessons developed by each student.

Table 1 shows the contribution of each student, the instructor, and the guest speaker to each of the six required discussions. Since there were twelve students, 36 message postings was the minimum required for each of the six discussion topics (12 students, 3 message postings per topic per student).

**Table 1**

Student	Discussion Topic						Total 2
	1	2	3	4	5	6	
A	3	4	1	6	1	1	16 *
B	1	2	1		1		5
C	2	10	3	2	2	4	23 *
D	3	5	1	1	1	4	15 *
E	3	7	2	4	3		19 *
F	7	8	1	1	3	5	25 *
G	2	1	1				4
H	1	6	1		2	4	14 *
I	1	2	1		2	1	7 *
J	1						1
K	1		1	1			3
L	1	1	1	1	1		5
Student Total	26	46	14	16	16	19	137
Required Total	36	36	36	36	36	36	216
% over/ <under>	<28>	<28>	<61>	<56>	<56>	<47>	<37>
Instructor	15	15	5	2	3		40
Guest speaker	1		12	6			19
Total 1	42	61	31	24	19	19	196

Student Total=number of messages posted by students for the discussion topic

Required Total=minimum number of messages required by instructor

% over/<under>=the percentage of messages over/<under> the required

Instructor=number of messages posted by the instructor

Guest speaker=number of messages posted by the guest speaker

Total 1=number of messages posted by the students, instructor, and guest speaker for each topic

Total 2=number of messages posted by each student for all topics

\*=Students who were continuing on to advanced online course

Each student was required to submit a sample lesson for peer critique. Four out of twelve students did this.

#### About class dynamics - the social aspect

The following are comments made by the informant that are related to the social and communication related aspects of the on-line class.

1. I sometimes felt isolated from the other students.
2. I sometimes wanted to know but could not find out how others felt about me as a person/fellow student.
3. I sometimes wanted to know if the other students put any value on my comments.
4. The paralinguistic features of communication (gestures, facial expressions, eye contact, and other body language) that help the speaker to convey or the listener to interpret a spoken message were unavailable, and it was difficult to determine if my interpretation of any particular written message was as it was intended to be.
5. There were concerns about turn-taking:
  - (a) How long a message should I write?
  - (b) Should I start a new idea, or should I respond to another student's message?
  - (c) If I start a new idea, would the other students feel that I was trying to control the direction of the discussion?
  - (d) Should I be the first one to respond to a topic put up by the teacher, or should I wait for someone else to respond first?
  - (e) Can I make a superficial comment, or must every comment

have substance?

- (f) When responding to another, was I talking on the subject, or had I misinterpreted what had been said?

#### About the on-line teacher

The following are some comments that the informant made about the teacher of the class:

1. The teacher made few appearances in on-line discussions. I knew that she wanted the discussion among students to provide the content for the course, but I felt that the teacher should also share her expertise.
2. I sometimes felt that the teacher had left the students alone in the classroom. I felt relieved when the teacher made an appearance in the discussion. I wanted to feel that the teacher (as an authority figure) was available to control the class discussion, even if only minimally.
3. I was disappointed when the teacher did not validate a comment of mine by responding on-line to it. Since paralinguistic signals are not available on-line, I had to rely on written responses to have my ideas acknowledged.
4. The teacher responded quickly to questions about where and how to get information.
5. The teacher took two weekend trips during the four week course. The other students and I were working hard to catch up on reading and responding to the messages on the discussion board.

## 6 . Discussion

The discussion of the data will focus on two aspects of the on-line classroom:

- (1) Equipment and student computer skills
  - (a) Access to a computer
  - (b) Internet access
  - (c) Basic computer/word processing skills
  - (d) Technical support
- (2) Student and teacher interaction
  - (a) Participation
  - (b) Social issues
  - (c) Communication (turn-taking)
  - (d) The role of the teacher

### Equipment and student computer skills

The classroom, blackboard, chalk, tables, and chairs are usually provided when taking a class at an educational institution. Students, sitting in the classroom, bring paper or a notebook and take notes, with a pen or pencil. The on-line learning environment brings with it a different set of requirements with regard to equipment and student skills. This report will focus on four areas: computer access, Internet access, basic computer/word processing skills, and technical support.

### Access to a computer

Learners in an on-line classroom must have access to a computer. The informant for this research had access to the computer and software necessary to work in an on-line classroom with a minimum of

problems. In addition, the computers were capable of using the software necessary for gathering the information presented in the course.

For an on-line class, the student also has the option of using his or her own computer set-up to access the system that will connect the student to the content of the course. If the student uses his or her own equipment, it must be capable of using the software that will be used in the course.

There is a question as to who has responsibility for providing the equipment for a class that has an on-line element. If it is a class that is conducted entirely on-line, as it is with distance-education, it can reasonably be said that the responsibility lies with the student. If it is a class offered by an institution such as a university, as a compulsory course, or requiring both attendance in a traditional classroom and on-line, the answer to the question becomes less clear.

#### Internet access

Computers connected to the Internet come with a real cost attached. The informant did have some concerns about the cost of being on-line for any length of time. At times he had a feeling that he needed to rush through the on-line readings or assignments, so as not to waste time and use up the time limit maximum set by his ISP plan. To use up the time limit would mean that high per minute charges would begin to accrue. This incidental time/money pressure does not help a student to do good work and can be a deterrent to full participation in a course.

#### Basic computer/word processing skills

The informant had adequate command of basic computer and word processing skills to complete the assignments for the course.

- (a) He had a familiarity with how to access information using the Internet.
- (b) He had experience with using e-mail.
- (c) He was familiar with word processing programs in general. Because of this, he had no difficulties with completing assignments, saving them to a computer file, and submitting them when necessary.
- (d) He had basic typing skills. The ability to produce a typed assignment in a reasonable amount of time was not a problem.

If he or she did not have these skills, the student studying on-line whole or in part would have to deal with these deficiencies in addition to learning content. There is a possibility that frustration due to a lack of technical skill, rather than lack of interest in the content subject, could affect the student's continued or full participation.

#### Technical support

The informant felt that he had good technical support from the teacher of the on-line course, who was always very quick to provide a solution. In addition, he was able to apply the solution given because he had some knowledge of the technical language associated with computers and software programs in general.

It is important that technical support be made available to students to solve problems or to help with the implementation of solutions. The more difficult question to answer is whether the teacher will be the only source, or if administrators of the institution's computer system will also be made available to lend assistance.

### Student and teacher interaction

In the traditional class setting, an important element in the learning and teaching process is the interaction between student and teacher and between the students themselves. It can be said to be just as important in an on-line class. The following analysis of student discussions in the on-line class in which the informant was a participant is broken down into four sections - participation, social issues, communication (turn-taking), and the role of the teacher.

#### Participation

Participation in discussions was through the posting of messages to a designated area in the on-line site. Data for participation in class discussions are shown in Table 1.

The class did rather poorly, varying from 28% below the required number of postings in topic #1 to 61% below in topic #3. The average for all topics was 37% below the required number of postings.

In a traditional class setting, the teacher can facilitate or encourage discussion. This would seem to be true in an on-line environment as well. In discussion topics #1 and #2, the teacher posted a message 15 times for each topic, and although student participation was less than the minimum required, it was still higher than the percentage of participation for the other four discussion topics, where the teacher was present only minimally.

The presence of a "guest speaker" did not stimulate discussion in this class. For discussion topic #3, students were asked to comment about the guest speaker's site, which they did only 14 times, 61% below the required total. For discussion topic #4, students were given the opportunity to ask questions directly to the guest speaker. There were



only 16 contributions by the students, 56% below the minimum required.

The discussion topic #2 (“Advantages (or not) of the Discussion Board”), drew 61 reactions. The informant found it difficult to keep up, and at one point found himself with looking at more than ten unread messages. It was difficult to summon up the energy to catch up on reading the messages. This raises questions about the self-discipline needed to keep up with what could be very intensive work in an on-line class. Although students can enter the on-line classroom at any time, they do need to enter, and have the discipline to do so on a regular basis.

There could also be problems with how students feel about the extent of participation of other students. Some students who are participating a lot may feel that they are doing too much of the “talking” and not getting much out of the discussion. In a traditional class, this problem can be handled by the teacher, by the students directly, or from the extra-linguistic signals found during face-to-face communication. This could become a more difficult and sensitive task for all parties to deal with in an on-line discussion.

The drop in Week 4 postings may have been due to the fact that all of the students had not submitted sample lesson plans for review. The informant had trouble getting his own sample lesson to the teacher, and in the end submitted a plan that the teacher could not read because of a software problem. The informant tried to comment on all of the sample lessons that were available for review, but he felt uneasy doing this because he had not been able to submit his own for review and criticism.

Some say that the anonymity of on-line discussions encourages

more participation in on-line discussions. The data does not bear this out. The factor of personality traits does not disappear simply because the discussion is on-line rather than face-to-face. The lack of participation by the teachers-as-students in this class is a reminder that ways of encouraging participation is a crucial element in the planning and implementation of an on-line class.

Another factor affecting participation could be the problem of having to write out the comments. For those who are good writers, this may not be a problem, but for others this could be a cause for concern and a deterrent to participation.

Week 3 and 4 saw a drastic drop in the number of messages posted. The informant did not post more than the minimum number of messages in Week 3 because he was confused as to what topic should be addressed. The discussion was proceeding in a direction different from what he had anticipated or expected. Since the discussion was proceeding on a subject that he had not yet read about, he felt left behind in the discussion. He didn't have time at that moment to read the required materials that would have allowed him to join the discussion.

It is very easy to get left behind in an on-line class since the teacher does not control every aspect of the pace of the lesson. On-line discussions can move from subject to subject very quickly. It is even more difficult to pace a discussion when a student cannot easily determine how much of each topic each of the other students has come prepared to "talk" about.

#### Social issues

The informant had difficulty remembering the names of the other

students and information connected to them. Without the face-to-face contact, it was difficult to feel that there were human beings connected to the words written on the message board.

In an on-line class, students get speech content (in the form of a written message) without the paralinguistic aspects of the message. Students cannot see the body language or other usual clues that provide a sense of where one stands in the social hierarchy of the class.

In a traditional class, feedback about the merits of your comments comes almost instantaneously. This was not available on-line. In fact, waiting to see if anyone would respond to a comment written on the discussion board felt like waiting for a verdict to be read in court. When students did not respond to a comment, the informant felt as though his comments really had no merit. In a traditional class, comments are met by either a verbal or non-verbal message, and that puts an end to that part of an attempt to communicate, to be quickly forgotten. Not so in an on-line class, where there is a waiting time, and a printed message that is waiting there (forever), for a reply that may never come.

The traditional class is a community, a society, of human beings. In it are all of the elements that go along with being a human being — a need for acceptance, for a feeling of self-worth, for a feeling of having value in that community. There is a need for each of the students to feel that they have a position in the community, and this is revealed to them either indirectly or directly through the speech and actions of the other occupants of the class. It is important that both students and teachers understand that the on-line class is also a society of human beings, be sensitive to the social deficiencies of the environment, and be willing to make up for the deficiencies in some manner.

Communication (turn-taking)

The informant was very concerned about turn-taking — how long a message to write, when to begin a new idea, when to add an idea, the length and depth of communication. Messages are seen in print as a big block of words, and the bigger that block is, the more resistance there may be to read it. He felt he had to express his ideas as quickly and concisely as possible. The messages had to show a respect for the reader's time. There was no room for the pauses, starts and stops, or incomplete thoughts, that usually occur as someone expresses an opinion orally. These features help to establish a link between people while communicating, and they are all missing in printed messages.

The informant was uncomfortable about starting a new idea. In this on-line class, the student had the option of starting a new “thread”, or subject of conversation. The informant felt reluctant to do so. In a traditional class, new threads arise automatically during the course of a discussion, as each party in face-to-face communication feels a shared responsibility to keep a conversation going. There is no need to be overly concerned as to the relevancy of a new thread to the discussion, since it will live or die of its own accord, very quickly. In addition, subjects in oral conversations have a tendency to drift, occasionally brought back to a main theme by someone stating directly or indirectly to get back on the subject. In an on-line class, silence is the way to avoid a comment that is deemed irrelevant, and the silence can be deafening and intimidating.

Another reason for not wanting to be the first to start a new idea thread was that the informant did not want to appear “pushy”. He wanted to be seen as an equal member of the class, and not as one who always had to lead a conversation, rather than contribute to one.

The informant also was reluctant to be the first one to respond to any new topic. At the beginning of the course he did this, but he felt that people should not have to and maybe did not want to respond to what he had to say on the topic. He wanted to respond to someone else's comment, rather than have everyone respond to his.

The informant felt that every comment he made had to have a substantial meaning. He felt that it would be improper to just say "I agree" or "Yes, me too", because it would be a waste of time for the other students to read messages such as these. At the same time, the informant wanted to respond at times with a casual "good idea" or "I think so, too", words that punctuate many discussions. These kinds of phrases may be heard spontaneously in verbal communication, and the informant thought that this would help to lessen the pressure of having to make every statement a relevant one, and also to help build rapport and a sense of community.

Adding to an idea also was a problem for him. He always wondered whether he was talking to the point that was being made, or if he had misinterpreted what was written. In verbal communication, the initiator of a comment can always clarify immediately what was said, but this is harder to do on-line, and some may not even bother to do so.

As can be seen from the comments above, turn-taking, spontaneous in a traditional class, can become a difficult issue for some in an on-line classroom.

#### The role of the teacher

The teacher of the course did not put herself at the center of the students' learning experience. She took more of a facilitative role, giving textbook reading assignments, making on-line reading material available

to students, and creating tasks that would require groups of students to communicate to complete them. These tasks required the students to post a reaction on the discussion board, which in turn was intended to generate more on-line dialog. This is a style of teaching that is commonly used in a traditional class and can also be used in an on-line class.

Although on-line, this is still a classroom, and the teacher is the most powerful figure there. Comments from a teacher with regard to a student's contributions may have the effect of placing value on the comments made by that student, resulting in motivating the student to contribute more. Peer comments are valuable, but they may need to be further validated by a comment from the teacher. By having to rely only on the responses of the students, the informant sometimes wondered if the teacher felt that his responses had any merit. The teacher has to be more aware of when and how to make his or her presence known. Even if the teacher wants to be a facilitator and have the discussion come primarily from the students, it would seem from the data that the teacher has to step in and contribute to the classroom discussion, as the "expert" in the field validating the existence of the discussion itself.

The teacher for this course, did "appear" at times, to stimulate more discussion, but also simply to praise the comments of the students. When the teacher did write a comment on the discussion board, the informant felt good knowing that the teacher was in fact "listening" to the student dialog, and was still in control. When the teacher did not appear after what the informant felt was a reasonable time, he sometimes felt that the teacher had abandoned the classroom. This was not a pleasant feeling.

On the other hand, the teacher took two trips during this four

week course. She announced it, which the informant could have resented, but he instead felt that she could still monitor the class from wherever she was located. Other students may have had a different reaction.

In a traditional class, support may come spontaneously from other students as well as the teacher, so the teacher does not always have to be so concerned about each individual student. This raises questions about how the on-line teacher can encourage students to contribute more. This is not an unusual problem for a teacher, but a further question may be whether the approach used in a traditional class can be used on-line. In a traditional class, the teacher may get an immediate feel for this and make adjustments. The on-line teacher may need to be even more vigilant since he or she cannot “see” these things happening. It may be tougher for the teacher to keep an on-line discussion going.

The teacher needs to have a special sensitivity to the social environment that is unique to an on-line class. Teacher presence is expected, as a provider of security, as a source of information who will validate the contents of the discussion, and as a source of encouragement.

## **7. Pedagogical Implications**

The data and discussion suggest the following points to consider when designing and conducting an on-line class:

1. Technical limitations may prevent students from full participation.

The teacher should be aware that these limitations may affect the extent of activity of a student and make a special effort to address

any problems in a timely and effective manner.

2. Lack of computer and basic word processing skills may prevent a student from producing the work required in a course. Along with having to learn course content, the student who does not have experience with using a computer or familiarity with word processing may have an additional burden. Teachers should be aware of this when designing curriculum and developing a syllabus for a course.
3. There must be the same careful planning and preparation that goes into a traditional class lesson or course. Putting a class on-line is not simply the act of taking traditional class activities and presenting them as an on-line class. The challenge is for the teacher to design a course that will utilize the wealth of resources available on the Internet to activate and engage the students in the process of learning.
4. An on-line class can be just as interactive as a traditional class, if the teacher so desires. The teacher can take steps to prevent the on-line class from becoming a cold and isolating environment by designing activities that will encourage communication between all the participants.
5. The social concerns of face-to-face conversation do not automatically disappear in an on-line environment. In addition, turn-taking can still be a problem for some students. An increase in participation is not guaranteed in the anonymity of the on-line environment.
6. The teacher must be able to communicate in writing in a thoughtful, sensitive, and supportive manner. Since the paralinguistic elements of a spoken message are not available, there is a chance for messages, written or unwritten, to be misinterpreted.



7. Unlike in a traditional class, the teacher's physical presence cannot be seen or felt. But as in a traditional class, he or she must decide on when to become "visible" (through written comment) and when to remain out of sight.

This study dealt with the technical and social concerns of working on-line. These concerns do not deal directly with how to deliver course content, but are important to consider when conducting an on-line class.

The study brings up many other questions that teachers using the Internet need to address. Among them would be questions regarding how to effectively present course material and how an on-line element can be incorporated into a traditional class. If these and other questions are answered, then the on-line class will become an even more exciting educational opportunity for those who desire to enter it.

## **8. Conclusion**

An on-line class can be an effective and important alternative to a traditional class as a teaching and learning tool. Education should be made available to all people. With a computer, an Internet connection, a desire to learn, and effective course design, people of various cultures and philosophies, from anywhere in the world, can enter an on-line class and gain access to information and knowledge that will enrich their lives. An educated population will improve the chances that a better, more peaceful world will eventually materialize and become a lasting reality.

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